

REMARKS

The present response is intended to be a full and complete response to the Office Action mailed May 12, 2009. Claims 13 to 22 are pending in the present application. With this amendment, claims 15, and 19 – 22 have been amended.

Applicants note with appreciation that claim 22 would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claim. Claim 22 has been amended accordingly.

Applicants respectfully request continued examination of Claims 13 to 22 and allowance of all pending claims.

Drawing Objections:

The drawings are objected to for failing to comply with 37 CFR 1.83(a) because "at least one distillation column" and "means for vaporizing the liquid by heat exchange with a compressed gas" are not shown.

Please insert the following text at page 7, line 30:

"In figure 4, air 3 is compressed in a compressor 1, which may be that described in figures 1, 2, or 3, and the compressed air is purified and sent to the air separation unit 7, which may be that described in figure 3. The air separation unit 7 comprises a cryogenic distillation unit comprising at least one distillation column 12, means for sending compressed air to a column in the unit 13, means for withdrawing a liquid from a column in the unit 14, and means for vaporizing the liquid by heat exchange with a compressed gas 15. Gaseous nitrogen 9 is withdrawn from the unit 7."

This amendment adds no new matter, as it simply reiterates these elements from page 3, lines 10 – 16.

Claim Objections:

Claim 15 is objected to because the phrase “the cooler of” seems to be missing between the words “in which” and “the final stages”. Claim 15 has been amended as suggested by the examiner. This was an inadvertent typographical error, and the Applicants apologize for any confusion.

Claim Rejections Under 35 U.S.C. § 112:

Claims 19, 20, and 22 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 19, 20, and 22 have been amended to remedy these rejections.

Claim Rejections Under 35 U.S.C. § 102:

Claims 13 – 19, and 21 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Barchas et al. '481. This rejection is respectfully traversed.

The Examiner notes that Barchas et al. '481 discloses a system wherein “the pressure drop through the last, furthest downstream cooler system(a set of three coolers) being greater than the pressure drops in the first sets of coolers”. With all due respect, Applicants fail to see how the simple disclosure that there are three coolers in series necessarily requires the hot side pressure drop to be greater than that of a single cooler depicted upstream. The skilled artisan would recognize that there might easily be three larger coolers, with a total pressure drop equal to or lower than a single, smaller cooler. One skilled in the art would also recognize that there are any number of reasons for having three sequential coolers, such as having three

immiscible cooling streams, available coolers with inadequate capacity that must be bridged, etc.

Barchas et al. '481 notes the outlet pressures at each compressor stage, but does not note any compression ratios or inter-stage pressure drops. It is therefore entirely undisclosed what the pressure drops within each of the identified coolers are, and hence the rejection is improper and should be vacated.

Claim Rejections Under 35 U.S.C. § 103:

Claim 20 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Barchas et al. '481 in view of Wong et al. '903. As discussed above, Barchas et al. '481 fails to disclose all the elements of the present invention, and Wong et al. '903 fails to remedy this situation. Thus, this rejection is respectfully traversed.

CONCLUSION

In view of the above, Applicants maintain that Claims 1 to 8 are now in condition for allowance. Early notice to this effect is earnestly solicited. Should the Examiner believe a telephone call would expedite the prosecution of the present application, the Examiner is invited to call the undersigned attorney at the number listed below.

Applicants do not believe that any fee is due at this time. However, in the event that any additional fees are due, the Commissioner is authorized to debit deposit account number 01-1375 for the amount due. Also, the Commissioner is authorized to credit any overpayment with regard to the present response to deposit account number 01-1375.

Respectfully submitted,

/Elwood Leonard Haynes/
Elwood Leonard Haynes
Registration No. 55,254

Date: August 11, 2009

Air Liquide
2700 Post Oak Blvd., Suite 1800
Houston, Texas 77056
Phone: (302) 286-5525
Fax: (713) 624-8950